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10/827,245	04/20/2004	Tomohide Usami	12-045	2546

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EXAMINER	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/827,245	USAMI, TOMOHIDE	
	Examiner	Art Unit	
	Jason T. Whipkey	2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 October 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3,5,7,8 and 10-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3,5,7,8 and 10-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *20 April 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see page 9, filed October 26, 2007, with respect to the rejection of claims 1, 3, and 16 under 35 U.S.C. §§ 102(b), 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new grounds of rejection is made in view of Ishioka.

Specification

2. The amendment to the abstract is approved and the corresponding objection is withdrawn.

Claim Objections

3. The amendment to the claims is approved and the corresponding objections are withdrawn.

Claim Rejections - 35 USC § 112

4. The amendment to the claims has overcome the rejection under 35 U.S.C. 112, second paragraph. The rejection under this section is withdrawn.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subjectmatter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okawa (Japanese Patent Publication No. 11-331681) in view of Minowa (U.S. Patent Application Publication No. 2001/0008989) and Ishioka (U.S. Patent No. 5,409,078).

Regarding **claim 1**, Okawa discloses a vehicle-mounted camera apparatus (see Drawing 6 in the provided computer translation), comprising:

a camera (image pick-up equipment 1A; see page 7, lines 44-46) mounted on a vehicle (see page 7, lines 40-43);

a vibration detector (acceleration sensor 7 measures vibration; see page 6, lines 38-45) provided on a body (see page 7, lines 16-16-20) of said vehicle so as to detect vibration transferred to said vehicle;

an image motion blur corrector (image amendment circuit 5) for correcting a motion blur in an image captured by said camera based on vibrations detected by said vibration detector (as shown in drawings 1 and 2, circuit 5 corrects the effects of vibration by reading an area out of memory in accordance with an output from acceleration sensor 7; see page 5, lines 30-34); and

a display controller for displaying an image corrected by said image motion blur corrector (since the system includes a monitor [see page 5, lines 41-44], it is inherent that some sort of controlling circuitry is associated with it).

Okawa is silent with regard to providing the vibration detector on a suspension of the vehicle.

Minowa discloses a vehicle with a mounted camera that corrects for vibrations using a signal from acceleration sensor 104 (see paragraph 60). A suspension control sensor can be used as acceleration sensor 104 (see paragraph 61). As stated in paragraph 61, an advantage of doing so is that costs can be reduced. For this reason, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have Okawa's system use the acceleration sensor on the vehicle's suspension.

While Minowa discloses that a suspension control sensor can be used (see paragraph 61), he is silent with regard to the sensor specifically being placed on the piston rod of a shock absorber.

Ishioka discloses a vibration damping system for a vehicle (see Figure 1), wherein vibration sensor 20 is attached to shock absorbers (see column 4, lines 4-14) to detect displacement "in response to a movement of the wheels 18 relative to the vehicle body 12". Such a displacement must inherently be measured using a piston rod, since the piston rod is the only component of a shock absorber that would move directly because of a displacement between the wheels and the body of a vehicle.

Specifically using shock absorbers as a location on a vehicle's suspension for placement of a vibration sensor would yield the predictable result of producing a measurement of vehicle vibration. For this reason, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have Minowa's system specifically place the vibration sensor on the shock absorber, as described by Ishioka.

Regarding **claim 8**, Okawa discloses:

> said image motion blur corrector determines an amount and direction of a motion blur in an image displayed on said screen that corresponds to the image captured by said camera based on vibrations detected by said vibration detector (see page 5, lines 30-34), and

changes an area to be displayed on said screen, within an image captured by said camera, according to said amount and direction of a image motion blur (see page 6, lines 5-9).

7. Claims 3 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okawa in view of Minowa and Tamura (U.S. Patent Application Publication No. 2002/0001366).

Regarding **claim 3**, Okawa discloses a vehicle-mounted camera apparatus (see Drawing 6 in the provided computer translation), comprising:

a camera (image pick-up equipment 1A; see page 7, lines 44-46) mounted on a vehicle (see page 7, lines 40-43);

a vibration detector (acceleration sensor 7 measures vibration; see page 6, lines 38-45) provided on a body (see page 7, lines 16-16-20) of said vehicle;

an image motion blur corrector (image amendment circuit 5) for correcting a motion blur in an image captured by said camera based on vibrations detected by said vibration detector (as shown in drawings 1 and 2, circuit 5 corrects the effects of vibration by reading an area out of memory in accordance with an output from acceleration sensor 7; see page 5, lines 30-34); and

a display controller for displaying an image corrected by said image motion blur corrector (since the system includes a monitor [see page 5, lines 41-44], it is inherent that some sort of controlling circuitry is associated with it).

Okawa is silent with regard to providing the vibration detector on a suspension of the vehicle.

Minowa discloses a vehicle with a mounted camera that corrects for vibrations using a signal from acceleration sensor 104 (see paragraph 60). A suspension control sensor can be used as acceleration sensor 104 (see paragraph 61). As stated in paragraph 61, an advantage of doing so is that costs can be reduced.

For this reason, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have Okawa's system use the acceleration sensor on the vehicle's suspension.

Okawa is silent with regard to placing the vibration detector in the vicinity of the position where the camera is mounted.

Tamura discloses an imaging system (see Figure 17) including an X-ray detector 52 with a photodetector array 58 (see paragraphs 293 and 305). A sensor "capable of detecting a vibration amount may be arranged in or near the X-ray detector 52" (see paragraph 314).

As stated in paragraph 316, an advantage of such a configuration is that "a satisfactory image can be easily and reliably obtained without any influence of vibration". For this reason, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have Okawa's system include the vibration detector in the vicinity of the position where the camera is mounted.

Regarding **claim 10**, Okawa discloses:

> said image motion blur corrector determines an amount and direction of a motion blur in an image displayed on said screen that corresponds to the image captured by said camera based on a vibrations detected by said vibration detector (see page 5, lines 30-34), and
>
> changes an area to be displayed on said screen, within an image captured by said camera, according to said amount and direction of a image motion blur (see page 6, lines 5-9).

8. Claims 5 and 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okawa in view of Minowa, Ishioka, and Athanas (U.S. Patent No. 5,092,626).

Claim 5 can be treated like claim 1. However, Minowa is silent with regard to the sensor being used to control damping force of a shock absorber.

Athanas discloses a shock absorber (10) that detects motion of a piston rod (44) using a sensor (accelerometer 364) in order to control the suspension characteristics of the vehicle (see column 15, line 55, through column 16, line 12).

Applying the known technique of using a sensor on a vehicle's suspension to control the suspension characteristics of the vehicle with the known technique of using a sensor on a vehicle's suspension to adjust the output of a television camera would yield the predictable result of using a single sensor's output to control more than one device. For this reason, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have Minowa's device use the sensor to control the damping force of a shock absorber.

Regarding **claim 11**, Okawa discloses:

> said image motion blur corrector determines an amount and direction of a motion blur in an image displayed on said screen that corresponds to the image captured by said camera based on a vibrations detected by said vibration detector (see page 5, lines 30-34), and
>
> changes an area to be displayed on said screen, within an image captured by said camera, according to said amount and direction of a image motion blur (see page 6, lines 5-9).

Claim 12 can be treated like claim 1. While Okawa discloses a vibration detector that outputs a signal to an image motion blur corrector and Minowa discloses a vibration detector on the suspension of a vehicle, he is silent with regard to the vibration detector specifically outputting a voltage that is relative to an amount of expansion or contraction of the suspension of a vehicle.

Athanas discloses a plurality of shock absorbers 10 on an automobile 12 (see Figure 1). Each shock absorber 10 can have an accelerometer 364 within piston rod 44 (see column 15, lines 55-63), which

inherently expand and contract. DC bias voltages are read from the shock absorbers (see column 21, lines 40-44).

Using a vibration detector on a vehicle's suspension to output a voltage based on its movement would yield the predictable result of being able to use vibration detector in a useful way. For this reason, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have Okawa's system include a vibration detector mounted on a vehicle's suspension that outputs a voltage based on its movement.

Claim 13 can be treated like claim 1. While Okawa discloses a vibration detector that outputs a signal to an image motion blur corrector and Minowa discloses a vibration detector on the suspension of a vehicle, he is silent with regard to the vibration detector specifically outputting a voltage that based on the force applied to a piston rod due to an unevenness of a road surface.

Athanas discloses a plurality of shock absorbers 10 on an automobile 12 (see Figure 1). Each shock absorber 10 can have an accelerometer 364 within piston rod 44 (see column 15, lines 55-63). DC bias voltages are read from the shock absorbers (see column 21, lines 40-44). Each piston rod inherently moves based on the condition of the road surface, as that is the function of shock absorbers.

Using a vibration detector on a vehicle's suspension to output a voltage based on its movement would yield the predictable result of being able to use vibration detector in a useful way. For this reason, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have Okawa's system include a vibration detector mounted on a vehicle's suspension that outputs a voltage based on its movement.

9. Claims 7, 14, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okawa in view of Minowa, Tamura, and Athanas.

Claim 7 can be treated like claim 3. However, Minowa is silent with regard to the sensor being used to control damping force of a shock absorber.

Athanas discloses a shock absorber (10) that detects motion of a piston rod (44) using a sensor (accelerometer 364) in order to control the suspension characteristics of the vehicle (see column 15, line 55, through column 16, line 12).

Applying the known technique of using a sensor on a vehicle's suspension to control the suspension characteristics of the vehicle with the known technique of using a sensor on a vehicle's suspension to adjust the output of a television camera would yield the predictable result of using a single sensor's output to control more than one device. For this reason, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have Minowa's device use the sensor to control the damping force of a shock absorber.

Claim 14 can be treated like claim 1. While Okawa discloses a vibration detector that outputs a signal to an image motion blur corrector and Minowa discloses a vibration detector on the suspension of a vehicle, he is silent with regard to the vibration detector specifically outputting a voltage that is relative to an amount of expansion or contraction of the suspension of a vehicle.

Athanas discloses a plurality of shock absorbers 10 on an automobile 12 (see Figure 1). Each shock absorber 10 can have an accelerometer 364 within piston rod 44 (see column 15, lines 55-63), which inherently expand and contract. DC bias voltages are read from the shock absorbers (see column 21, lines 40-44).

Using a vibration detector on a vehicle's suspension to output a voltage based on its movement would yield the predictable result of being able to use vibration detector in a useful way. For this reason, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have Okawa's system include a vibration detector mounted on a vehicle's suspension that outputs a voltage based on its movement.

Claim 15 can be treated like claim 1. While Okawa discloses a vibration detector that outputs a signal to an image motion blur corrector and Minowa discloses a vibration detector on the suspension of a vehicle, he is silent with regard to the vibration detector specifically outputting a voltage that based on the force applied to a piston rod due to an unevenness of a road surface.

Athanas discloses a plurality of shock absorbers 10 on an automobile 12 (see Figure 1). Each shock absorber 10 can have an accelerometer 364 within piston rod 44 (see column 15, lines 55-63). DC bias voltages are read from the shock absorbers (see column 21, lines 40-44). Each piston rod inherently moves based on the condition of the road surface, as that is the function of shock absorbers.

Using a vibration detector on a vehicle's suspension to output a voltage based on its movement would yield the predictable result of being able to use vibration detector in a useful way. For this reason, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have Okawa's system include a vibration detector mounted on a vehicle's suspension that outputs a voltage based on its movement.

10. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okawa in view of Minowa and Athanas.

Regarding **claim 16**, Okawa discloses a vehicle-mounted camera apparatus (see Drawing 6 in the provided computer translation), comprising:

a camera (image pick-up equipment 1A; see page 7, lines 44-46) mounted on a vehicle (see page 7, lines 40-43);

a road surface sensor (acceleration sensor 7 measures vibration, inherently caused by an uneven road; see page 6, lines 38-45);

an image motion blur corrector (image amendment circuit 5) for correcting a motion blur in an image captured by said camera based on a voltage output from the road

surface sensor (as shown in drawings 1 and 2, circuit 5 corrects the effects of vibration by reading an area out of memory in accordance with a signal output from acceleration sensor 7; see page 5, lines 30-34); and

a display controller for displaying an image corrected by said image motion blur corrector (since the system includes a monitor [see page 5, lines 41-44], it is inherent that some sort of controlling circuitry is associated with it).

Okawa is silent with regard to providing the road surface sensor on a suspension of the vehicle.

Minowa discloses a vehicle with a mounted camera that corrects for vibrations using a signal from acceleration sensor 104 (see paragraph 60). A suspension control sensor can be used as acceleration sensor 104 (see paragraph 61). As stated in paragraph 61, an advantage of doing so is that costs can be reduced. For this reason, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have Okawa's system use the acceleration sensor on the vehicle's suspension.

Okawa is also silent with regard to including a suspension controller that receives an output from the road surface sensor and controls an actuator of the of the vehicle's suspension.

Athanas discloses a plurality of shock absorbers 10 on an automobile 12 (see Figure 1). Each shock absorber 10 can have an accelerometer 364 within piston rod 44 (see column 15, lines 55-63). DC bias voltages are read from the shock absorbers by microprocessor 374 (see column 21, lines 40-44), acting as a suspension controller. Microprocessor 374 controls solenoids 392 (acting as an actuator), which adjust the vehicle's suspension (see column 12, line 50, through column 13, line 7, and column 17, lines 12-23).

Using a road surface sensor on a vehicle's suspension to output a voltage based on its movement to control an actuator would yield the predictable result of being able to produce a smoother ride. For this reason, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have Okawa's system include a road surface mounted on a vehicle's suspension that outputs a voltage based on its movement to control an actuator.

Conclusion

11. This action is non-final because a new ground of rejection is being applied to claims that are substantively unamended.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Whipkey, whose telephone number is (571) 272-7321. The examiner can normally be reached Monday through Friday from 9:30 A.M. to 6 P.M. eastern standard time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lin Ye, can be reached at (571) 272-7372. The fax phone number for the organization where this application is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JTW

JTW
January 22, 2008

LIN YE
SUPERVISORY PATENT EXAMINER